

**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ARIZONA STRIP FIELD OFFICE
ENVIRONMENTAL ASSESSMENT
Mechanical Harvesting of Native Seed on the Arizona Strip
EA-AZ-110-05-0010**

1.0 INTRODUCTION AND BACKGROUND

For close to fifteen years individuals have requested and, on occasion, been issued permits to harvest seed on the Arizona Strip. This Environmental Assessment analyzes the impacts of harvesting native seed from public lands outside national monuments, wilderness areas and Areas of Critical Environmental Concern (ACEC) on the Arizona Strip using mechanized equipment. This action is generated by the push to use native seed in fire rehabilitation and other land reclamation work on public lands throughout the west, creating a growing demand by seed companies for seed coming from public lands.

1.1 Need for the Proposed Action

The search to find and harvest desirable native seed for use in reclamation projects throughout the west has created an ever increasing demand on public lands to supply part of this seed. Seed harvesters have located on the Arizona Strip desirable sources of many of these seeds including, but not limited to the grasses Indian ricegrass (*Oryzopsis hymenoides*), needle-and-thread grass (*Stipa comata*), Squirrel tail (*Elymus elymoides*), Sand dropseed (*Sporobolus cryptandrus*), forbs such as Globe mallow (*Sphaeralcea spp.*) and Penstemon (*Penstemon spp.*), and shrubs such as Fourwing saltbush (*Atriplex canescens*) and Sagebrush (*Artemisia tridentate*). The Arizona Strip District receives ten to fifteen requests a year for permits.

1.2 Conformance with the Arizona Strip Land Use Plan

Authorizing mechanical seed harvesting is not addressed in the Arizona Strip District Resource Management Plan (RMP) dated January 1992, as amended April 1997. Chapter II under District wide objectives includes the following: 1) manage public lands and resources under the concept of multiple-use to attain the optimum combination of uses and 2) manage rangeland vegetation so that it becomes as productive as feasible for multiple-use values. Seed harvesting is a value under the multiple-use concept. Other decisions of the RMP which are similar to and consistent with this proposed action of authorizing a commercial use due to public demand include: FW13 Designate personal/commercial green and dead-and-down woodcutting areas..., and GZ01 Administer livestock grazing on public lands to balance use and sustain productivity and appropriately mesh livestock production and associated management practices with other multiple use needs and objectives. Also Appendix 19 "Off-Highway Vehicle Designations" Management Strategies/Guidelines: D. All off-road vehicle use must be limited to the minimum necessary in order to accomplish the task and to prevent undue or

unnecessary degradation to the area, and E. Organized events, timber harvests, and land treatment projects will be handled on a case by case basis. To harvest large areas of seed it is not feasible to use hand labor as it is slow and expensive. As the seed is only available to harvest for a few days once it is ripe, the harvesters must move quickly before the seed shatters. The only way currently known to do this over large areas is through the use of light machinery such as pick-up or tractors with brushes or sweepers mounted on the front of them, that travel back and forth across the area to be harvested.

1.3. Relationship to Statutes, Regulations, or other Plans

The proposed action and alternatives are provided for under the Act of July 31, 1947, as amended, which authorizes the disposal of timber and other vegetative resources on public lands of the United States. (30 U.S.C. 601) and are consistent with other Federal, State and local laws and regulations. Authorizing mechanical seed harvesting would not impede the attainment of Standards for rangeland health. The one time passage of a vehicle over a particular area would not prevent upland sites from proper functioning (Standard #1), riparian areas would not be affected by this action (Standard #2), and the harvesting of seed, as long as some seed were disseminated on the ground, would not impede the attainment of desired plant community objectives and therefore not impede the attainment of Standard #3.

1.4 Identification of Issues

- a. Some ranchers whose cattle graze the public lands where seed harvesters want to collect seed feel that the BLM is selling forage twice. Once to them for their cattle and again to the harvesters who are gathering the seed.
- b. The machinery used to harvest the seed must travel cross country which may damage archaeological sites, vegetation, and soils.
- c. Harvesting of seed may reduce the ability of plants to self perpetuate, thus impacting the ecological balance of the site.
- d. Issuing permits has been problematic. Should they be issued on a first come first served basis, a lottery system, competitive bidding, by allocating areas to harvesters, or some other method?

2.0 DESCRIPTION OF ALTERNATIVES

2.1 Competitive Bid Proposal

Issue permits to commercial harvesters of native seed on public lands of the Arizona Strip outside national monuments, Areas of Critical Environmental Concern, wilderness and riparian areas to allow the mechanical harvesting of native grass and forb seed when conditions are favorable. These conditions include:

- a. The area to be harvested is larger than twenty acres.

- b. The area has the appearance of a virtual monoculture of the species of vegetation to be harvested.
- c. There are no archaeological sites (structures), tortoises or special status plant species known or suspected to occur within the proposed seed harvest area.
- d. Soil moisture is such that rutting or other soil damage would not occur.
- e. BLM has determined there is sufficient seed to harvest without damaging the resource or diminishing food for seed dependent species.

Campsites would be kept clean and orderly with no more than six vehicles at a site. As per Arizona state law no camping would be allowed within a quarter mile of water. Camping would be limited to fourteen consecutive days and the campsite would be left clean with all trash picked up and removed to a landfill.

The machinery used would consist of wide profile or low pressure rubber tired pick-up trucks or tractors of no more than 9,000 pounds gross vehicle weight with large brushes or sweepers mounted to the front of them which rotate while the vehicle is being driven cross-country and sweep the seed from the seedheads of the plant being harvested into bins or sacks located behind and below the sweepers.

Minimum off road travel allowed would be that several vehicles could operate simultaneously across an area, but no more than one pass across any given location would be allowed.

Prior to issuing any permits, a BLM official would outline areas containing approximately 500 to 1500 acres of the seed to be harvested and issue an invitation to bid to all interested parties. The high bidder on each area would harvest that area. Areas open for seed harvesting would include the following: portions of sections 1, 12, 13 and 14 in Township 37N. Range 12W in what is known as Sullivan Draw; the SE1/4 of section 24 and the east half of section 25 in T36N. R11W., and sections 19 and 30 of T36N. R10W. in the Dave Pond pasture of the Mainstreet allotment; the north ½ of section 8 the northwest ¼ of section 9 T35N. R11W. in the Snyder pasture of the same allotment; along the west side of the Mainstreet road in Mainstreet Valley which includes portions of sections 22, 23, 26, 27, and 35 T38N. R11W.; also in the Rock Pockets allotment T40N. R. 9W. sections 23 and 26. Also along the Clayhole road in T40N. R7W. sections 8, 9, 10, 11, 14, 15, 17, 21, 22, 23, 26, 27, 28 33, and 34 and in T39N. R7W section 4.

Other areas open for seed harvesting include the Spencer seeding located in the south ½ of section 13, the west ½ of section 24 and the northwest ¼ of section 25 in T41N. R1E.; Muggins Flat including the southwest ¼ of section 20 and the south ½ of section 21 in T41N. R1E.; Wildcat Hills in sections 31 and the west ½ of 32 in T40N. R1E. and the north ½ of section 6 in T39N. R1E.; and the House Rock south area located as follows: W½ section 7, south ½ section 17, section 18, E½ section 19, section 20, W½ section 21, NW¼ section 28, N½ section 29, and the NE¼ of section 30 T38N. R4E.

BLM would monitor the seed harvesting by having a BLM official onsite on occasion during the operation to insure the permit was being complied with, no resource damage was occurring and sufficient seed was left onsite for new seedling establishment and food for seed eaters.

2.2 First Come, First Served Alternative

The method of harvesting seed would be the same at the competitive bid alternative. The method of issuing permits would differ in that whoever first applied for a permit in a particular area would be granted a permit to harvest that area. The individuals applying for a permit would be responsible for identifying the area or areas where they wanted to harvest seed.

2.3 Lottery Alternative

Again, the method of harvesting would not change, just the method of issuing permits. Under this alternative the BLM would identify the areas to be harvested and invite those interested to submit an application for the areas they have an interest in harvesting. A drawing would be held to determine who would be issued permits for each area.

2.4 Assignment or Adjudication of Harvest Areas Alternative

The method of harvest would be the same, but the issuance of permits would be based on assigning applicants specific areas in which they would be the only one allowed to harvest seed.

2.5 No Action Alternative

Under this alternative the Arizona Strip District would not issue permits to harvest native seed on public lands using mechanical means. Applications would either be denied or permits issued for manual harvesting only.

3.0 AFFECTED ENVIRONMENT

The affected environment is tiered to the Arizona Strip District RMP (January 31, 1992), Affected Environment pages III-1 to III-58, pages 41 to 92 of the Vermillion Grazing EIS (1979), and pages 41 to 83 of the Shivwits Grazing EIS (1980) which was adopted into the RMP and is essentially the same for this action. Chapter 2 of both the Vermillion and Shivwits Grazing EISs describes the components likely to be impacted by the proposed action. Environmental components discussed in the EISs that might affect or be affected by the proposal are: Climate, Vegetation, Threatened and Endangered Species, Soils, Animals (wildlife), Cultural Resources, Visual Resources, and Land Uses including livestock grazing and recreation.

3.1 Climate

The major land resource areas represented within the impacted public lands of this proposal include: 1) Grand Canyon Desert Shrub with an annual precipitation average of seven to eight inches, annual average temperature of 61 to 68 degrees F. and average frost free period of 210 to 282 days. 2) Colorado Plateau Cold Desert Grassland with an annual precipitation average of about ten inches, annual average temperature is 54 to 57 degrees F. and average frost free period of 165 to 180 days. 3) Colorado Plateau Cold Desert Shrub with an annual precipitation average of eleven to fourteen inches, annual average temperature of 57 degrees F. and average frost free period of 140 to 160 days. 4) Mogollon Plateau Woodland-Grassland with an average annual precipitation of about 15 inches, annual average temperature of 48 to 52 degrees F. and average frost free period of 135 to 150 days. 5) Arizona Interior Chaparral-Grassland with an average annual precipitation rate of 16 to 19 inches, annual average temperature of 45 to 56 degrees F. and average frost free period of 120 to 165 days.

3.2 Vegetation

The principal vegetative type impacted by seed harvesting is the desert grassland type. Other vegetative types subject to mechanical seed harvesting would include playas which are occasionally flooded or for other reasons produce mostly a forb component in favorable years, and sagebrush, desert shrub, and pinyon-juniper sites which have been burned or otherwise treated and are producing mostly a forb or grass component.

Noxious weeds also exist to some degree in the area. These include halogeton, Russian knapweed, and Scotch thistle.

3.3 Threatened and Endangered Plant and Animal Species

Of the various special status plant species located on the Arizona Strip District only *Pediocactus peeblesianus* var. *fickeisenia*, (fickeisen plains cactus) a candidate for listing, occurs in small areas in the desert grassland. The populations are very widely scattered. Fickeisen occurs along the Marble Canyon Rim, on the Sunshine Ridge (state land), Clayhole Ridge, in Hurricane Valley along the edge of the Salaratus Hills, and Main Street Valley. No other special status plant species occur in areas suitable for seed harvesting.

The listed animal species that may occur on the harvest areas are bald eagle and California condor. However, they are only occasional winter visitors to the area and have not been sighted there in late spring or early summer when the harvesting would be taking place. The only other special status animal species that might be found in seed harvesting locations include ferruginous hawk, western burrowing owl, mammals including various species of bats and possibly the northern sagebrush lizard.

3.4 Soils

The major soil associations where the seed harvesting would take place include: 1) Winona-Boysag association which includes loam, gravelly loam and sandy loam soils which are shallow with low water holding capacity and have slight to moderate erosion hazard; 2) Rudd-Wukoli-Cabezon association which includes gravelly loam, very gravelly loam, cobbly loam, stony loam, and cobbly clay soils with shallow depth and slight to moderate erosion hazard; 3) Moenkopie-Shalet-Tours association which includes loamy sand, sandy loam, clay loam, silty clay loam and silt loam soils with shallow depths and slight to moderate erosion hazard.

3.5 Wildlife

Wildlife species found on the proposed harvest areas include two big game animals, mule deer and pronghorn; coyote, jack rabbit and cottontail; a variety of other non-game wildlife typical of the desert grassland community including small mammals, grassland birds, raptors, and reptiles.

3.6 Cultural Resources

Prehistoric and historic sites exist throughout the Arizona Strip. Cultural resources cover the span of human occupation in the new world from around 10,000 years ago up to and including the ranch operators of today. Our specific knowledge of the cultural makeup is limited due to the lack of scientific investigation of the area. A reconnaissance was made of the areas proposed for seed harvest by the BLM district archaeologist. Two of the sites, Sullivan Draw and Mainstreet, have had archaeological clearances done through the center of them, the Spencer seeding, Muggins Flat and Wildcat Hills sites have been previously disturbed using rangeland drills to plant seed after the areas had been burned or otherwise impacted to have the vegetation removed. The remaining sites: Dave's Pond, Snyder, Rock Pockets, Clayhole, and House Rock South are all areas of relatively flat to gently rolling terrain producing native grasses or forbs.

3.7 Visual Resources

The area within the proposed seed harvest areas is in Visual Resource Management (VRM) Class IV. VRM Class IV lands in comparison to others in the region are recognized as of the least value.

3.8 Land Uses

Livestock grazing: The entire area proposed for seed harvest has been allocated for livestock grazing and comprises a number of different grazing allotments.

Recreation: The area is considered to have recreation values for its geology, scenic view sheds, remoteness, and solitude. General recreation activities include: recreational OHV use, horseback riding hiking backpacking, camping, hunting, rock collecting, photography, bird watching and nature study.

3.9 The following critical elements of the human environment are not affected by any of the alternatives or are not present:

Air quality
Native American Religious Concerns
Water (quality and quantity of surface/ground supplies)
Prime or unique farmlands
Environmental Justice
Wilderness
Wild and Scenic Rivers
Wild Horses and Burros
Area of Critical Environmental Concern
Wastes (Hazardous or solid)
Flood plains
Wetlands/Riparian Areas

3.10 Socio/Economic

The economic base on the Arizona Strip is primarily livestock grazing, with some mining, guiding for big game animals, organized recreational events, and seed harvesting taking place. Around the communities of Fredonia, Colorado City and Little Field there is some agricultural activity taking place along with motels, restaurants, and service stations related to the tourist business.

4.0 ENVIRONMENTAL IMPACTS

Only impacts that may result from implementing the proposed action or alternatives are described in this EA. Except for the No Action alternative all impacts would be the same for the other alternatives. If an ecological component is not discussed it is because BLM resource specialists have considered effects to the component and found the proposed action or alternatives would have minimal or no effects.

4.1 Climate

While climate would not be impacted by either the proposed action or any of the alternatives it is a big variable in the development and harvest of seed. The amount and timing of moisture coupled with temperature determines the amount and type of vegetation and seed production. These factors can also determine how quickly the plants mature, how much seed is produced and whether the seed is viable or not. Wind also plays a factor in seed production and it along with rain can also disperse the seed before it can be harvested.

4.2 Vegetation

The rubber tires of the vehicles harvesting the seed would mash down vegetation as they passed over it. This vegetation would be forbs or grasses and would receive little damage by this impact. The brushes mounted on the front of the vehicles would sweep the ripened seed from the target vegetation propelling part of it (an estimated 60%) into the bins or sacks designed to catch it. The remainder would be scattered on the ground and be available as a food source or to eventually germinate, producing new plants. The sweeping motion of the brushes may bend or break the stems of forbs, but would have little impact on the stems and leaves of the grasses.

Any vehicles coming onto the harvest area have the potential of carrying noxious weed seed on them which could create new areas of infestation.

4.3 Threatened & Endangered plants and animals

Only the population of the *pediocactus fickeisenia* in Hurricane Valley exists in a potential seed harvest area. The other populations of fickeisen are precluded from machinery harvest by virtue of topography and sagebrush. Should a vehicle drive over one of these *pediocactus* it could severely damage or destroy it. As a result no seed harvesting would be allowed within a mile of fickeisen habitat.

BLM has determined that there would be no affect to any listed or proposed animal species or designated or proposed critical habitat by issuing mechanized seed harvesting permits. Neither would any species on the Arizona Wildlife Species of Concern or Arizona BLM Sensitive Species list be affected.

4.4 Soils

On silty or clayey soils with high moisture content some compaction or even rutting could occur in the tire tracks. No other impacts are anticipated.

4.5 Wildlife

During the process of harvesting, wildlife patterns would be disrupted to some extent as the wildlife would avoid or move out of the area of human activity. The harvest of seed would reduce the food supply for some insects, rodents and birds. Seed harvest would also reduce the amount of seed available to produce future forage crops necessary to sustain deer and antelope herds that depend in large measure on succulent forbs for their diet during certain times of the year. The reduced amount of seed for food and reproduction would be minor as the areas of seed harvest are where an overabundance of seed is being produced, close to half of the seed is scattered on the ground, and the seed lies in the ground and remains viable for a number of years.

4.6 Cultural Resources

District archaeologists have determined that there is little impact to lithic scatters by the passage of rubber tired vehicles or their brushes which sweep the vegetation but do not

touch the ground. Any archaeological structures in the harvest areas would be damaged if the vehicles struck or passed over them. The likelihood of this happening is remote as these areas are very open for good visibility and the harvesters, out of necessity to protect their equipment from damage avoid brush, rocks and any other obstructions. Due to the land forms, vegetative types, previous disturbance in some areas, and the seed collection method which would not create undue surface disturbances, the project is not considered a significant impact to cultural resources.

4.7 Visual Resources

Driving cross country to harvest the seed would leave faint tracks not discernable to the casual passerby. No other visual impacts would result from this action.

4.8 Land Uses

Livestock grazing could remove some of the plants before the seed has ripened. Harvesting the seed before the plants were grazed would prevent the livestock from gaining the nutrient value of the seed. However, once the seed ripens it soon shatters and is not available as forage. In the case of globe mallow, far more is produced in desirable seed harvest areas than livestock would consume and in the case of needle and thread grass the long awns on the seed make it undesirable as forage when the seed ripens. If livestock are in the area when harvesting is taking place it could disrupt their normal foraging patterns.

Harvesting of seed should not impact any recreational activities on the land. The passage of a vehicle over the land once, leaves faint tracks until the next wind or rainstorm. The tracks would not be noticeable to the casual passerby and being located in open areas that lead nowhere would not be attractive to off-road enthusiasts.

4.9 Socio/Economic

The various methods of issuing the mechanized seed harvest permits or if no permits were issued would have an economic impact on those who make their livelihood harvesting seed. If the No Action alternative were selected the opportunity to earn an income from seed harvest on the Arizona Strip would be greatly impacted as manually harvesting the seed is not economically feasible on a large scale basis. Also one of the primary sources of supplying needle and thread grass as well as globe mallow to vendors for processing and resell back to federal agencies and other entities for restoration and rehabilitation work would not be available.

The proposed action of competitive bidding would favor individuals or companies who have direct lines of processing and marketing seed over those who only harvest the seed then sell the uncleaned seed to a company for processing and resale.

The first come, first served alternative would cause those wanting to secure permits to make application possibly even before the best locations for harvesting and the quantities available to harvest are known.

The legal aspects of adjudicating areas to specific individuals for long term harvesting privileges have not been examined. This may not be a feasible alternative.

5.0 Mitigation

- a. Most mitigation to protect against any resource damage has been outlined under the proposed action in part 2 above.
- b. Permits would be issued only in the areas identified above that have received a archaeological reconnaissance.
- c. Seed harvesting would only take place when the soils are dry to prevent soil compaction or rutting.
- d. One pass over any given area is all that is allowed. No retracing of the same tracks would be allowed.
- e. Gross vehicle weight of any harvester would not exceed 9,000 pounds.
- f. All vehicles and equipment would be washed before going onto the Arizona Strip to harvest seed to prevent the inadvertent transporting of noxious weed seed into the harvest areas.
- g. Grazing allotment permittees would be notified before the seed harvester entered the allotment to start harvesting seed.
- h. Based on the vegetative response to precipitation and soil moisture a determination would be made each spring by the authorized BLM officer before a permit is issued. The vegetation targeted for harvest in the area would have to meet or exceed its composition by weight for the desired plant community.

5.1 Residual Impacts

The only residual impacts following the harvest of the seed would be the removal of the seed from the site and the existence of tire tracks crisscrossing the area for a short time.

5.2 Cumulative Impacts

This action would not add to the cumulative impacts of the area. Once the seed was harvested all equipment, debris and other signs of activity were removed the area would return to its natural condition.

6.0 CONSULTATION AND COORDINATION

This EA was prepared by the Bureau of Land Management (BLM), Arizona Strip Field Office, 345 East Riverside Drive, St. George, Utah. Phone number is (435) 688-3200. Public involvement has included visits with grazing allotment permittees, seed harvesters, members of the District interdisciplinary assessment team and the Rangeland Resources Team which represents various interests and uses on public lands on the Arizona Strip.

6.1 Internal Reviewers

Gloria Benson, Native American Coordinator
Tom Folks, Recreation
Laurie Ford, Lands/Reality/Minerals
Michael Herder, Wildlife and T&E Animals
John Herron, Cultural
Lee Hughes, T&E Plants
Linda Price, Standards & Guidelines
Robert Sandberg, Range
Richard Spotts, Environmental Coordinator
Ron Wadsworth, Law Enforcement
Ray Klein, Grand Canyon-Parashant Supervisory Ranger
Robert Sandberg, Acting Field Manager Arizona Strip Field Office

Finding of No Significant Impact

Based on the analysis of the potential environmental impacts contained in this environmental assessment, I have determined that the proposed action would not have a significant effect on the human environment and therefore an environmental impact statement will not be prepared.

Field Manager, Arizona Strip Field Office

Date